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Changes in distribution of fibronectin in the kidneys after burns combined with endotoxemia in rats and their significance

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Abstract Objective: To explore the changes in distribution of fibronectin (Fn) in the kidneys after burns combined with endotoxemia and their significance. Methods: The rats were randomized into four groups: ① Simple burn group (SBG); ② Simple endotoxin-injected group (SEG); ③ Burn and endotoxin-injected group (BCEG) and the normal control group (NCG). The changes of Fn in the serum and the expression of Fn in the kidneys were dynamically investigated at 0.5th, 1st, 3rd, 6th, 12th, 24th, 48th and 72nd h after burns and/or endotoxemia. Results: The serum contents of Fn were higher in all the first three groups than in the control. Image analysis showed that the integral optical density values of Fn in BCEG was lower than those in NCG or SEG but higher than those in SBG. Conclusion: ① Injection of endotoxin after burns significantly stimulate the synthesis and release of Fn in the renal tissue. ② The degradation and release of Fn in the tissue plays the most important role in the increase of Fn content in the blood and causes renal injury.

Key words burns; endotoxemia; fibronectin; immunohistochemistry; image analysis; rat

大肠癌患者手术前后检测胃液与血清 CEA的比较

Contrast of CEA in the gastric fluid and serum before and after operation in patients with colorectal carcinoma

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大肠癌患者手术前后测定血清 CEA以判定手术疗效、预后以及复发等情况已成为公认的传统方法,但血清 CEA的测定存在着敏感性不高及特异差等问题。我们对 28例大肠癌患者分别于手术前后同时测定了胃液及血清 CEA,表明胃液 CEA的敏感性及特异性均显著高于血清 CEA。

1 材料与方法

28例大肠癌患者,其中结肠癌 9例,直肠癌 19例,全部经病理确诊。男 20例,女 8例,年龄 28~ 68岁,平均 48岁。均在手术前及手术后 5~ 6 d空腹抽取胃液并抽血,同时送同位素科测定 CEA。取 8例胆囊切除及 4例粘连性肠梗阻患者的空腹胃液为对照组测定 CEA。血液 CEA值已有阳性判断标准,故不再设对照组。

2 结果

术前胃液及血清 CEA值均显著高于术后,见表 1。

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troblotted to nitrocellulose membrane. The films of nitrocellulose membrane were blocked with 5% no-fat milk and then reacted with G-protein antibody and secondary Ab-HRP in order. Finally, the G-proteins were detected with chemiluminescence. **Results**: Target bands of G-proteins was very clear and had nice repeatability. There were one Gαi and Gαo bands with molecular weights of 39kD and 41kD in the aorta, atrium, ventricle and brain in rats of different races. There were four Gsα bands with molecular weights of 38, 42, 45 and 52kD respectively in the aorta of Fischer 344 rats and three with molecular weights of 42, 45 and 52kD respectively in that of the Sprague-Dawley and WKY/SHR rats. Three Gsα bands with molecular weights of 42, 45 and 52 kD were found in the atrium and ventricle in rats of different races. In the brain of the Fischer 344 and Wistar rats, only two Gsα bands with molecular weights of 45 and 52 kD were seen. One Gqα band and one Giα band with molecular weights of 42 and 41 kD respectively while two Gαi bands with molecular weights of 45 and 52 kD were found in the cyctosal and membrane of the lungs in Wistar rats. **Conclusion**: Western blot is a good method for determination of the content and band distribution of G-proteins. The subtype and band distribution of G-proteins are different among different tissues and animal races.

Key words western blot; G-protein; lung; heart; aorta; rat

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表1 大肠癌手术前后血液、胃液及对照组 **CEA**值(ρ_B/μg·L^{-1})

	胃液	血液	对照组
术前	52.28±28.84△△	27.24±19.13△△	11.35±7.84
术后	12.15±9.68	8.03±7.32	

△△: $P<0.01$与术后比较

由于血液与胃液 CEA值属不同来源,不直接进行比较。

胃液 CEA的阳性判定值以胃液对照组的 $\bar{x}\pm 2.5s$ μg/L为标准,即> 30.95μg/L(11.35±2.5×7.84)为阳性。血清以> 15μg/L为阳性判定标准。胃液 CEA值的阳性率显著高于血液,胃液及血液术前 CEA阳性率(%)显著高于术后见表2

表2 胃液与血液 **CEA**阳性率的比较

	胃液	血液
术前	71.43(20/28)**△△	50(14/28)△△
术后	7.14(2/28)	7.14(2/28)

**: $P<0.01$与血液比较;△△: $P<0.01$与术后比较

二者联合测定阳性率为78.57%(22/28)较胃液 CEA值稍有升高,但二者比较差异不显著($P>0.05$)。

3 讨论

CEA是一种胚胎性抗原。但近年来研究发现 CEA不是单纯的均一性物质,具有相当大的异质性,是一个大家族[1],不仅存于胚胎性肿瘤和结直肠肿瘤中,在其它许多组织的肿瘤和疾病中也发现了 CEA。在胎儿胃肠道及正常胃肠道上皮的分泌液中也含有一定量的 CEA,它是由胃肠道上皮细胞及基质细胞分泌的[2]。CEA在结直肠肿瘤时的血清水平较在胃癌及其它疾病增高显著,但尽管这样仍然有半数以上的结直肠癌患者的血清 CEA不增高,而癌组织及其转移灶中却有表达,Roselli[3]采用抗 CEA单克隆抗体进行组织学检查证明了这一点,即血清 CEA水平并不能揭示肿瘤中 CEA的表达。在本研究中,我们采用了检测胃液 CEA的方法,发现胃液中也存在着相当量的 CEA,经查阅资料,未见有这类报道,但为何结直肠癌患者会出现胃液中 CEA升高,机制尚不清楚,有待进一步研究。我们推测可能存在着一种胃结肠联动效应或反射效应。

本研究表明:胃液 CEA值及阳性率明显高于血清,提示胃液 CEA的敏感性高于血清 CEA,在一定程度上提高了特异性,对于诊断结直肠癌有重要的辅助作用。与血清 CEA一样,手术后胃液 CEA也有显著下降,且与对照组差异不显著,对手术疗效及预后的判断同样具有十分重要的意义,且敏感性同样高于血清 CEA。二者联合测定阳性率无显著升高,说明胃液 CEA的升高与血清 CEA的升高呈正相关。因此,若胃液抽取方便,我们认为胃液 CEA的结果和意义完全可以取代血清 CEA

关键词 大肠癌;CEA
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